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ABSTRACT

In this course guide to the teaching of urban ecology, six learning activities on the following topics are outlined: (1) city location and growth; (2) an in-depth study of New Orleans; (3) city shape and structure; (4) size and spacing of cities; (5) cities with special functions; (6) local community study. Educational objectives for each activity are described. Library references, a bibliography, and possible community resources are included. Methods of learning evaluation are described. Emphasis in the curriculum design is placed on student awareness, decision making, and involvement in the local community. (WI)

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ECOLOGY IN URBAN EDUCATION

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Presented by Letitia K. Johnson, Librarian
and Michael Ryan, Instructor

For use in teaching Urban Ecology or
Urban Geography

May 20, 1978

Sentinel High School
Missoula, Montana

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INTRODUCTION

Urban Ecology deals directly with the settlements of man called cities. The course is divided into an introduction to history of urban settlements, and major units, the first four of which are concerned mainly with the structures of cities, although several other themes such as site characteristics, factors that influence the growth or decline of cities, and the importance of accessibility are also important. The fifth unit looks at settlement systems, the relative sizes and spacing of cities. The last of the integral activities conclude with an exercise about cities that have special functions, including cities clustered around a single dominant industry.

In addition to the introduction and course activities listed above as being integral to and that carry the main concepts of the course, there are several optional activities. Any or all of these may be selected for use as a class-time activity. Some of these activities will be of a reading nature, such as "A Tale of Three Cities" and "Megalopolis." Some activities will be of a discussion-discovery nature, such as the one which studies the residential patterns of Negro ghettos in the Chicago area. The most extensive and comprehensive of the activities should be the "Local Community," study which deals with the city of Missoula in terms of a sequent occupance (the historical succession of occupance patterns of people) and current land use patterns, with the focus on improving the quality of the city's physical and cultural environment. More detailed suggestions for alternate class and individual student activities in the local community are included on pages 16-19.

Why Study Urban Geography?

This is a question which the student must be asking. The answer is: We want to survive as a species, Homo sapiens, or perish for lack of an answer to unsolved questions such as:

1. Segregation—How can racially segregated populations, at odds with one another, work together toward a progressive, socially wholesome society?
2. Schools—How can schools develop quality education in the face of enormous pressures resulting from social upheaval?
3. Crime—How can urbanites live closely together in harmony and good will when divisive forces at work within the society give rise to extraordinarily high crime rates?
4. Traffic congestion—How can metropolitan areas continue to offer the economies of urbanization when they are being strangled by the very vehicles responsible for their prosperity?
5. The physical environment—How long can a society continue to exist if the fundamental elements for life—AIR—WATER and SOIL are polluted with elements which are dangerous to life?
6. The human environment—Can mental health prevail in places where noise levels and invasions of privacy go beyond acceptable standards?

The student of today is the decision-maker of tomorrow. The 1970's must be faced by responsible men and women knowledgeable in the ways of the urban life. In order to make sound decisions, they will have to be aware of the problems, resulting from growth, change, and closeness. The ultimate goal of this course is to spare the next generation the urban discomfiture suffered by members of this generation as a result of former generations' thoughtless decisions.

The problems of urban areas are well-known, but solutions are difficult. There is at least the hope that by studying the kinds of problems mentioned above we may yet arrive at solutions. It seems desirable for the man or woman who must live tomorrow to consider contributing understanding and intelligent decisions on urbanism.

NOTE TO THE TEACHER

This course in "Urban Ecology" is designed to be extremely flexible in terms of the materials used and the usage of those materials. The goal of this project is to make students aware of the need to consider any action taken by urban, suburban, or rural residents of the ecological consequences and of the limits to processes of environment.

The class is using The Rise of the City An Urban Approach to World Geography by Frank M. MacGraw and Dean L. Phelps, published by Field Educational Publications, Inc., 1971, as an introduction to urban studies. It also acts as a supplement to the springboard of the course, Unit 1, Geography of Cities, from the H.S.G.P.'s Geography in an Urban Age. This material has interest-appeal and material relevance for the student of the 1970's; it deals with the problems that the student is either presently facing or is about to face in the world of reality. Students discover the problems which are inherent to all urban places and hopefully they will begin to consider the alternative solutions to those problems from a newly gained "enlightened" prospective.

James H. Johnson's Urban Geography text is used to supplement the course. It should be used as source material for the instructor to clarify a point or pursue a concept in greater detail. Also, various activities from the H.S.G.P.'s The Local Community: A Handbook for Teachers are particularly helpful in understanding urban concepts by referring to the student's own community.

We attempt to combine the class study of background information and basic concepts with activities to stimulate learning about and involving students in personal participation in processes of shaping their community. This outline is inclusive and flexible; each instructor should use the suggestions that fit the course being taught and the unique needs of the students.

Because of the inherent relevance to students' lives, this subject may increase their awareness, interest, and involvement in citizen-participation in urban affairs.

It is planned for teaching to students in grades 10 and 11.

OVERALL COURSE OBJECTIVES

Upon the conclusion of this course the student should be better able to:

1. Anticipate and account for the probable locations and growth of urban places in terms of transportation, pattern of settlement, and physical environment.

2. Account for and anticipate patterns of urban land use in terms of transportation and the physical habitat.

3. Anticipate patterns of socio-economic characteristics in urban settings.

4. Illustrate how people have both modified their physical environment and adapted to it.

5. Discuss settlements of different sizes in terms of their trade areas and their pattern of relationships with other settlements.

6. Use theories to account for and anticipate settlement and land-use patterns.

7. Use data from a variety of sources to make hypotheses and test them.

8. Identify current trends which are or evidence potential of urban decay.

9. Participate in citizens' and/or governmental process of information gathering and interpretation.

10. Identify procedures for improving the quality of life in a city.

INTRODUCTION TO URBAN ECOLOGY

A. The Subject

1. Study of the rise of the city as a form of human habitation.
2. Study the history and archeology of ancient cities to gain understanding of the reasons for cities to arise, the criteria used to define a group habitation as a city, and a knowledge of some typical locations within the city.
3. Apply Concepts of Geographic Inquiry to a given site.

Educational Objectives:

At the conclusion of this introduction the student should be better able to:

1. Relate the relevance of studying urban geography to today's society.
2. Compare traditional and current methods of studying geography.
3. Be able to name four of the six concepts of sound geographic inquiries.
4. Inter-act in a group and present ideas verbally.
5. Recognize what he/she knows about cities, their functions, and their problems.

B. Ancient Cities Project

1. Learn why certain cities arose; study their history and locations.
2. Determine criteria for designating a settlement a city.
3. Draw a land-use map of an early city showing key factors in an urban settlement.

Educational Objectives:

As a result of this introduction, the student should be better able to:

1. Recognize value and utility of land-use map in understanding a city.
2. Locate useful resources in libraries.
3. Work in a group activity, organize materials, and make verbal presentations.
4. List a minimum of
   a. 3 geographic prerequisites to city development,
   b. 5 functional aspects of an ancient city, and
   c. 5 problems common in ancient cities that are extant in contemporary cities.

LEARNING ACTIVITIES

Activity 1. City Location and Growth

Part 1. Selection of Settlement Sites-Hypothetical diagrams are used by the student to gain experience in making decisions about selecting sites.

Part 2. Preparation of Site Diagrams—Students draw their own diagrams of a contemporary subdivision site, as well as a projected site for the year 2000.

Part 3. Predictions of Urban Growth—Through a brief reading students are asked to assume the role of a lawyer moving to the Ohio Valley in the early nineteenth century. They predict locations for major cities and see where cities of different sizes are thirty-five years later.

Part 4. A Tale of Three Cities—The reading in the Student Resources gives information on the development of New York, Boston, and Philadelphia and emphasizes their relative location at different times as leading cities in the United States.

Part 5. Bruges—The reading in the Student Resources tells the story of the rise and decline of Bruges during the Middle Ages. The discussion questions following the reading test the student's understanding of the factors involved in Bruges's growth and decline.

Educational Objectives

At the conclusion of these activities, the student should be better able to:

1. Describe some of the factors influencing the growth and location of urban sites.
2. Recognize the influence of chance factors and incomplete information on site location decisions.
3. Describe how the factors influencing site selection and urban growth change in relative importance over time.
4. Explain the location of urban places.
5. Predict the growth potential for settlements.
6. Recognize that the predictions of growth potential can be made only in terms of probability because of chance and changes brought about by time.
7. Compare the factors influencing the growth of cities in the United States to those influencing urban development in medieval Europe.
8. Discuss the factors that might cause a prosperous European city to decline.
9. Identify urban problems.
10. Seek citizens' channels of impact on his/her future in urban life.

Activity 2. New Orleans

Part 1. Introduction and Orientation—This part is divided into three sections. The first consists of an introduction to the study area by means of a map location, together with student observations as to site selection. The intent of the second section is to familiarize the students with topographic maps, and that of the third section, with stereograms and stereoscopes.

Part 2. Visual Analysis—Students will be analyzing stereograms and concentrating on the variety of land uses they can identify.

Part 3. The New Orleans Bridge—In this part the students concentrate on the bridge built across the Mississippi River. By means of written questions and discussion, the class will examine the roles of the river, the purpose of the bridge, and the effects the bridge has had on the surrounding area.

Part 4. Examining Three Neighborhoods—Students examine three contrasting neighborhoods and hypothesize about the socio-economic characteristics of their residents. Census data are then used to check the hypotheses.

Educational Objectives

At the conclusion of the activity the student should be better able to:

1. Identify varieties of urban land use from aerial photographs.
2. Estimate location of varieties of urban land use.
3. Describe examples of human adjustment to the physical habitat.
4. Estimate population characteristics from observing aerial photographs.
5. Use tabular census date to check hypotheses derived from photographs.
6. Provide citizen in-put on desirable land-uses.

Activity 3. City Shape and Structure

Part 1. A Theory of City Shape—Students reason about alternate shapes of cities, and develop a theory of growth to explain the shape of Chicago.

Part 2. Application of the Theory of Urban Growth to the Internal Structure of the City—In groups of two or three, students use a theory of urban growth to try to predict internal patterns of the city. Then they compare predictions to the actual patterns.

Part 3. A New Theory—Students are presented with a different theory and find by study of still other patterns that it, too, has limited validity.

Part 4. A Composite Theory—Working in small groups students find that the two different theories are not incompatible but fit together into a composite theory more useful than either component.

Part 5. Migrants to the City—This part is divided into four sections. First, students use their knowledge of the pattern of distribution of family income in Chicago to anticipate where the predominantly black residential areas will be located. Secondly, students are confronted directly with some common misconceptions about the black person and his environment and are asked to inquire into the truthfulness of the stereotype. Thirdly, students read about the residential characteristic of European immigrants in Chicago and should note the striking similarities between the characteristics of these early European settlers and the characteristics ascribed to the black people in the stereotype. Lastly, the student is asked to reconsider the stereotype in light of the new evidence.

Part 6. Megalopolis—This part is divided into two sections. First the students answer questions on changes in the density of population in Megalopolis, using maps of population density for 1900, 1930, and 1960. Then students read the two selections, "What Is Megalopolis?" and "Through the Great City" and answer questions about the characteristics, problems, and the prospects of Megalopolis.

Educational Objectives

At the conclusion of the activity the student should be better able to:

1. Explain the purpose and limitations of using a theory to describe real conditions.

2. Generalize how a number of urban variables are related from mapped data about these variables.

3. Apply the concentric ring or sector theories to the mapped data of a city.

4. Describe and explain the general relationships that exist between the distributions of income, race, crime, disease, and educational attainment within most cities.

5. Explain why the urban blacks today tend to remain clustered in particular residential areas.

6. Describe and cite examples of some of the major problems facing areas of megalopolitan development.

7. Describe and evaluate some of the actions being taken in an effort to solve major urban problems.

8. Describe the major characteristics of megalopolitan development and give examples of such development in other parts of the country or world.

9. Extract information from population density maps.

10. Provide informed citizen in-put on zoning problems.

Activity 5. Sizes and Spacing of Cities

Part 1. Students as Consumers—is a mapping exercise in which students prepare eight to ten maps showing their choices of places to shop. The trade area for each business establishment is drawn and differences are discussed.

Part 2. Trade Areas Around Kitchener, Ontario—is a class discussion of a consumer map showing farm family travel to purchase food. In this activity the scale changes to a regional setting and students begin their consideration of the effects of consumer behavior on the network of cities.

Part 3. Group Assignments—is a series of three exercises which students, preferably in independent groups, work through. The exercises are supposed to be self-contained and groups can work through them in any sequence. They deal with the effects of culture, time, and a nearby metropolis on the urban network.

Part 4. Debriefing—will take about one-half a class period. Students, through class discussion, pull their ideas together about regularities (or lack of them) in an urban network.

Part 5. Local Shopping Survey—This part has four sections. The planning stage includes classification and selection of the business and service firms to study, obtaining their permissions, designing a questionnaire, deciding upon the number of interviewers and of the persons to be interviewed, choosing the times during which interviews will be conducted, and specifying how the interviews are to be conducted.
The field work is the actual process of collecting data by interviewing customers or patrons outside the places of business.
The data analysis stage includes, at the least, the plotting of shopping trips on large-scale maps.
Tabulation of the data should also be made. Finally, they must check their hypotheses against their evidence.
Lastly, the material should be presented to the class and the findings discussed.

Educational Objectives

At the conclusion of the activity the student should be better able to:

1. Interpret maps that illustrate the behavior of people.
2. Discuss specifically the relationship between the shopping habits of consumers and the sizes and spacing of cities.
3. Discuss the general factors which influence the location of cities within an urban network.
4. Plan and carry out a field research project.
5. Classify various types of business and service enterprises according to the size of their trade area.
6. Provide citizen in-put on city planning.

Activity 6. Cities with Special Functions

Part 1. Listing Special Functions—starts students thinking about special functions of cities.

Part 2. Identifying Special Functions—is a student exercise of the self-testing type. Answers are provided at the end of the exercise in order that the student may check his own guesses.

Part 3. Summary Discussion—will conclude the unit. Students will discuss which special functions are readily discernible and which are not; why large cities are seldom "specialized" although they may be pre-eminent in one or more specialties, and how the settlement systems model may not apply to special function cities because of their locational requirements or historic accidents.

Educational Objectives

At the conclusion of this activity the student should be better able to:

1. Discuss the specialized roles that certain cities perform.
2. Identify some special functions of cities from photographs.
3. Discuss the effects of special function cities within a settlement system.
4. Describe feasible alternative solutions to certain urban trends.

Activity 7. Local Community Study

Part 1. The Original Site—Students examine the characteristics of the original site of Missoula, such as the physical features, natural resources, and the natural land and water access routes. They should try to evaluate these in terms of the original settlers' own perceptions and needs.

Part 2. Growth or Lack of Growth—Students try to discover some of the major reasons for the city of Missoula's growth or its failure to grow during certain periods of its history.

Part 3. Sequent Occupance—Students attempt to trace the growth of Missoula from its founding to the present and graphically plot these stages on maps for selected time periods.

Part 4. Students look at the city as it is today to see how its inhabitants have made use of the natural site features, how they have changed them, and how they have been limited by them. Identify its problem areas.

Part 5. Students concentrate on unique outgrowths of common urban problems in Missoula by recognizing the interaction of socio-political influences and by identifying citizens' opportunities for shaping future developments.

Educational Objectives

At the conclusion of the activity the student should be better able to:

1. Discuss the factors affecting the selection of the site of Missoula.
2. Discuss some of the major reasons for the community's growth or failure to grow during certain periods of its history.
3. Locate and give reasons for the location of major land uses with the city Missoula.
4. Put into map form information gathered in the field.
5. Be an informed voter on municipal issues.
6. Activate interest in trends toward improved quality of urban life.

FIELD TRIP

Objectives:

1. To identify patterns of population distribution.
2. To seek evidence of a theory of growth in the city.
3. To apply concentric ring or sector theories by pinpointing limited area characteristics.
4. To identify within, or near, the city those buildings or areas of significance to local/regional history.

Outline of places to visit:

1. Downtown
2. Industrial area
3. Residential areas
   a. historic--early settlement
      (1) low income
      (2) high socio-economic
   b. new developments
4. Suburban shopping area
5. Recreational site
6. Heavy Traffic areas

Activities:

1. Identify for each area
   a. Socio-economic level
   b. Zoning regulations
   c. Voting precinct
   d. Problems
   e. Quality of life for residents
2. Note and compare traffic patterns.
3. Identify physical features which may have influenced settlement patterns.
4. Photographic series on any one of these:
   a. historic sites and buildings
   b. types of transportation
   c. recreational activities
   d. people at work
   e. detail design on buildings, bridges, or?
5. Identify factors in any one sector of the city which influence health or behavior (cultural, criminal, etc.).

SUGGESTIONS TO TEACHERS FOR CLASS PROJECTS

I. Discovering Missoula

This activity is designed to answer questions bearing on the geographic, climatic and environmental factors important to Missoula as an urban location. Local history, as well as economic and population trends, are examined. The activity emphasizes practice in concrete skills such as using census reports, atlases, map-making, essay writing, interviewing and graph construction.

Directions: Answer the following questions using materials provided in the classroom, school library, census reports and newspapers. This exercise is an attempt to help you become more aware of the unique properties of Missoula. Look closely at the various components of the whole subject; cite sources for all your answers.

1. What is the latitude and longitude of Missoula, Montana? What major cities of the world lie within three degrees latitude, north or south of Missoula's latitude? What does this indicate about these other cities?

2. Describe the climate of Missoula by giving temperature, rainfall, winds and seasonal variations.

3. Describe and make a sketch map of the Missoula area showing the most important physical features, such as rivers, mountains, valleys and major man-created transportation routes.

4. Give a brief history of the settlement of Missoula Valley and indicate the most important events which led to the growth and development of the city of Missoula.

5. Trace the growth of population of Missoula from as far back as possible. Then, graph the city's growth from that point to the present.

6. What is the present rate of growth in population for the city of Missoula? If this rate of growth is constant for the next ten years, what will be Missoula's population by 1987? (Use the figures just for the legal city).

7. In the order of importance, list the five major employers in the Missoula Valley and indicate the approximate number of people working in each area of work.

8. Describe the form of government in Missoula and name the persons who have been elected to the various offices. List their titles.

9. As you see them, list the major problems which face the people of Missoula in the next ten years. List at least five problems. Explain why you think these are or will be problems.

SUGGESTIONS TO TEACHERS FOR CLASS PROJECTS

II. The Automobile

A. The Automobile: Good or Bad

1. Students research the subject using library resources.

2. Describe what you foresee as the fate of the private automobile ten years from now, when you will be about 26 years old. What will its basic design be like in terms of shape, height, weight, length, passenger capacity, cost, means of propellent, and mileage and range? Illustrate your answer with diagrams or sketches when appropriate.

3. Comment on the changes in urban lifestyle which might result from use of the automobile.

4. Do you think the quality of life, as you have described it, in 1987 will be improved or degraded as a consequence of the automobile? Be sure to explain your position fully.

B. Local Traffic Survey

Lecture on the scientific method

1. Students list and memorize the steps in this method.

2. The class chooses a site as one aspect of a community-wide traffic problem.

3. Supplied with a site diagram, students make a field trip to that site.

4. Each group of 6 or 8 students produces a thesis statement that is testable by field observation and that sheds some light on Missoula's traffic congestion as exhibited at the site.

5. Students then produce tools to gather necessary data. These may include a survey of high school students to determine driving habits, tally sheets to count the number of cars, models, number of passengers per car, direction of entry into the intersection, timing of traffic lights, etc.

6. Following the required number of field observations, the data is analyzed to support the thesis.

7. Each group presents to the entire class
   a. the research method used, and
   b. the cumulated data to support or deny its thesis.

SUGGESTIONS TO TEACHERS FOR OPTIONAL & INDIVIDUAL STUDENT ACTIVITIES

Taking your view of your city:

I. 1. Take walks and observe:
   a. On a new (to you) street
      Geographic features that may have influenced the location of the street, the type of use of the area, the structure of the buildings. Is it a pleasant place to live (or to work)? Why?
      Is it improving or declining? What signs of that are evident?
   b. Compare a familiar (to you) street by use of same questions.

2. List 3-5 actions which would improve the street (your opinion).
   a. Mark one "M"--or most likely to occur.
   b. Mark one "O"--or the one to which most objections would be raised.
   c. Choose either a or b and answer: Why?
      Who will effect or block the change?

II. Ride public transportation (school bus or a car pool is a reasonable substitute) into an unfamiliar sector of the town and observe:

Geographic features that create favorable living (or working) conditions--unfavorable conditions.

Which unfavorable conditions have been caused by people? How? How could the unpleasant conditions be changed to more acceptable ones? Why doesn't that happen?

How would you describe that area in: economy
quality of environment
opportunity for a good life

Which one is most important to you? Why?

Who is most responsible for the good things you see?
The worst?

What community action could change its worst feature? Who could lead the change?

III. Attend meetings of organized governmental bodies:

1. Observe:
   a. what the issues are.
   b. what problems are involved in each issue.
   c. what the priorities are in decision-making.
   d. do you expect the final decision created more problems to be solved later?

2. Propose a solution to an environmental issue.
   a. List the results of your solution.
   b. lobby for your cause.
   c. Evaluate your decision in environmental terms.

IV. Attend public meetings on environmental and social issues.

1. Observe—
   a. The problems cited by pressure groups.
   b. Problems not addressed.
   c. Action proposed to solve the main issue.
2. Participate—
   a. Contribute to discussion—be able to verify and provide evidence of facts used.
   b. Assist with telephone tree.
   c. Assist with public poll.
   d. Assist with community survey of opinions, geographic or physical facts.

V. 1. Make a statistical survey of any geographic- or environmental- related phenomenon—
e.g. traffic, population, trade area, public services, location of schools or cultural institutions, etc.

2. Compile and interpret meaning of the statistics.

3. Present in written or oral form to an appropriate group.

VI. Map a single block in your city.

1. Geographic characteristics
   a. terrain
   b. salient features such as buildings, monuments, recreational sites, parks or gardens
2. In legend include
   a. Legal description of land
   b. City (Precinct voting location)
   c. School district
   d. Zoning code

VII. Draw an animated map of your city. Show only the sites and features that make it a good place for you to live (the streets you travel, places you visit, play, work, live, etc.).

LIBRARY REFERENCES

Using appropriate subject headings, see:

Card Catalog

Readers' Guide to Periodic Literature

Montana Almanac and Supplement

Indexes to National Geographic Magazine

Indexes to Horizon Magazine

Census Reports

Atlases

Encyclopedias and Yearbooks

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Telephone Directory

Chamber of Commerce Data Book

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COMMUNITY RESOURCES

Community Resources

Speakers, maps, and other pertinent materials may be available from:

Montana, State of

Employment Service

Highway Department

Natural Resources & Conservation, Dept. of

Planning & Economic Development, Division of

Missoula, City of

Cemetary Board

City Building Inspector

City Engineer

Councilmembers

Fire Chief

Housing and Zoning Coordinator

Mayor

Parks and Recreation Board

Police

Sewage Treatment Plant

Street Department

Missoula, County of

Commissioners

Road Department

Weed Control Board

Missoula, City & County of

City County Planning Board

Regional Planning Association of Western Montana

Resources Coordinator

City-County Library

University of Montana

United States Forest Service

Fort Missoula Historical Museum

Missoula Museum of the Arts

EVALUATION

Pre-test:

Objectives:

1. To determine how much the students know about cities, their functions, and problems.
2. To test students' recognition of problems on which diverse stands are inherent.
3. To observe each student's potential for the participatory process in government.

Administering test:

I. Opening statement: It is necessary to study cities because more and more people are living in cities. The entire world is becoming more urbanized. (U. S.—1903: 70% rural; today—Over 70% urban).

1. Name problems which you have observed that are associated with cities:
   - overcrowding
   - joblessness
   - racial tension
   - housing shortage
   - poverty (ghettos)
   - crime
   - pollution
   - personal distance (less intimate) loneliness
   - lack of privacy

II. Question: Given all of the problems cities have, there must be compelling reasons that continue to bring people to them. What are these reasons?

1. Break class into small groups of 3 or 4.
2. Give them time to discuss and arrive at some advantages cities give to people living in them.
3. Points students may mention:
   a. recreation
   b. education
   c. arts (fine)
   d. trade
   e. jobs—number and kind
   f. social services
   g. convenience

Discuss these and other points as fully as time and student interest allow.

Instructor observes:

_____% of students who are aware of urban problems. (based on discussion of II above.

_____% of students who can cite reasonable advantages and who would recognize points pro or con. (based on II above).

_____% of students who show potential for participation in a group process by contributing to the group activity.

EVALUATION (cont.)

Post-Test:

1. Choose one of the issues listed below and write it on this line:

_____

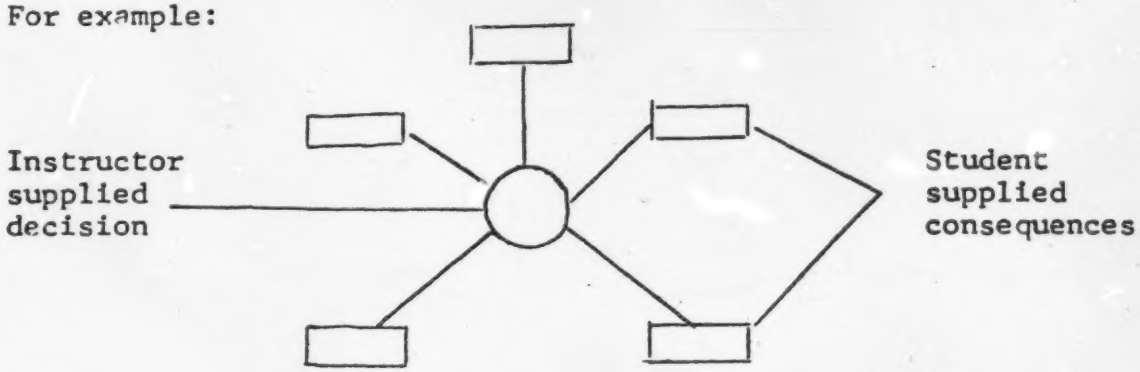
Now write the opposing views:

For	Against
_____	_____
_____	_____

(e.g. Zoning ordinance, urban sprawl, downtown improvement, traffic congestion, housing shortage, etc.).

2. Statement or directions given by instructor: Every decision has far-reaching consequences; a decision made fifty years ago creates major traffic problems in this city today. A traffic problem solved often has other interrelated effects on the economy, schools, laws, etc. In the diagram given you a decision has been indicated; you are to indicate five interrelated consequences which might follow from this decision.

For example:



3. List the public meetings or group activities you have attended this semester and identify your level of participation. Note date and hours spent in appropriate meeting/activity box. Write a brief summary of the proceedings.

Meeting Activity	Organizer	Discussant	Survey or Research	Observer	Brief Summary
City Council		✓ 25 May 7-7:15 pm		✓25 May 7-9 p.m.	